PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Multi-Year Clearwater Anadromous Fish Plan

BPA project number: 20534
Contract renewal date (mm/yyyy): ☐ **Multiple actions?**

Business name of agency, institution or organization requesting funding

Business acronym (if appropriate) CBFWA

Proposal contact person or principal investigator:

Name Tom Giese
Mailing Address
City, ST Zip
Phone 503-229-0191
Fax
Email address

NPPC Program Measure Number(s) which this project addresses

FWS/NMFS Biological Opinion Number(s) which this project addresses

Other planning document references

Short description

Target species

Section 2. Sorting and evaluation

Subbasin
Clearwater

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
☐ Anadromous fish ☐ Resident fish ☐ Wildlife	☐ Multi-year (milestone-based evaluation) ☐ Watershed project evaluation	☐ Watershed councils/model watersheds ☐ Information dissemination ☐ Operation & maintenance ☐ New construction ☐ Research & monitoring ☐ Implementation & management ☐ Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description
20534	MYP Clearwater Anadromous Fish Plan
8909800	Idaho Supplementation Studies.
9005500	Idaho Supplementation Studies.
8909801	Idaho Supplementation Studies.
8335000	Build tribal hatchery & 6 satellite facilities.
9303501	Restoration of lower Red River meadow.
9608600	Habitat enhancement planning, administration, some project implementation
9706000	Habitat enhancement planning, administration, some project implementation
9607702	Habitat enhancement.
9607703	Habitat enhancement.
9607704	Habitat enhancement.
9607705	Habitat enhancement.
9059	New habitat restoration work.
9060	New habitat restoration work.
9120	New habitat restoration work.
9122	New habitat restoration work.
9202409	Implement tribal law enforcement activities.
8335000	Artificial production M & E.
8909800	Research and M&E of supplementation.
9005500	Research and M&E of supplementation.
8909801	Research and M&E of supplementation.
8909802	Research and M&E of supplementation.
9403400	Research and M&E of supplementation.

9011	Residual steelhead.
9057	Pacific lamprey.

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Improve adult holding and pre-spawning survival.	a	Re-establish flow regimes that support ecosystem components necessary for healthy native resident populations.
		b	Implement fishery regulation and habitat enforcement.
2	Improve spawning success and survival to emergence.	a	Re-establish flow regimes that support ecosystem components necessary for healthy native resident populations.
3	Improve juvenile rearing and over-wintering survival.	a	Re-establish flow regimes that support ecosystem components necessary for healthy native resident populations.
4	Improve summer parr survival.	a	Re-establish flow regimes that support ecosystem components necessary for healthy native resident populations.
		b	Manage Dworshak Reservoir pool for levels of fish food production.
5	Supplement where needed with	a	Develop localized broodstock of

	genetically appropriate salmon and steelhead in the subbasin using stock specific escapement criteria capable of maintaining stock productivity, survival and genetic diversity.		westslope cutthroat trout for mitigation stocking to replace non-native rainbow trout stocking.
		b	Control of eliminate kokanee entrainment through Dworshak Dam.
		c	Develop additional pond fisheries copatible with native fish management.

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
				Total	0.00%

Schedule constraints

Completion date

Section 5. Budget

FY99 project budget (BPA obligated):

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel		%0	
Fringe benefits		%0	
Supplies, materials, non-expendable property		%0	
Operations & maintenance		%0	
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		%0	

NEPA costs		%0	
Construction-related support		%0	
PIT tags	# of tags:	%0	
Travel		%0	
Indirect costs		%0	
Subcontractor		%0	
Other		%0	
TOTAL BPA FY2000 BUDGET REQUEST			$ 0

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount ($)
		%0	
		%0	
		%0	
		%0	
Total project cost (including BPA portion)			$ 0

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget				

Section 6. References

Watershed?	Reference
☐	Draft Multi-Year Anadromous Fish Plan, CBFWA, February 4, 1998
☐	FY1999 Draft Annual Implementation Work Plan, Vol. 1 Tab. 5, CBFWA May 13, 1998
☐	
☐	

PART II - NARRATIVE

Section 7. Abstract

(Replace this text with your response in paragraph form)

Section 8. Project description

a. Technical and/or scientific background

(Replace this text with your response in paragraph form)

b. Rationale and significance to Regional Programs

The Clearwater River Subbasin is located in north-central Idaho and covers 9,645 square miles. The Clearwater River originates at about 9,000 feet elevation in the Bitterroot Mountains. The Clearwater flows into the Snake River. About one-third of the Snake River streamflow comes from the Clearwater, which has several major tributaries. Dams have limited salmon production in the subbasin. Dworshak Dam blocks anadromous fish migration into all but about two square miles of the North Fork of the Clearwater River.

About 85 percent of the Clearwater subbasin is conifer forest, and the remainder is rolling high prairie. The subbasin includes the 1,250 square-mile Nez Perce Indian Reservation, of which 133 square miles are tribal or trust lands administered by the Bureau of Indian Affairs. The federal government owns 61 percent of the land in the subbasin and private landowners account for 32 percent. The U.S. Forest Service manages most of the federal land. Forestry, agriculture, and grazing are the major land uses in the subbasin.

The indigenous anadromous fish species most actively targeted for management in the Clearwater River Subbasin are fall chinook, spring and summer chinook, coho (extirpated) and Group A and Group B summer steelhead. The goal for these species is to restore sustainable, naturally producing populations to support tribal and non-tribal harvest and cultural and economic practices while protecting the biological integrity and the genetic diversity of the watershed.

Resource problems include sedimentation and lack of large woody debris, locally in the Lochsa, South Fork and Mainstem tributaries, which has decreased number and size of pools, potentially reducing adult pre-spawning survival; cobble embeddedness has reduced spawning success and survival to emergence; lack of pools has also reduced juvenile rearing and over-wintering success; and, high water temperatures have reduced juvenile survival, particularly in the Middle Fork Clearwater and tributaries to the South Fork, Lochsa, and Mainstem. These problems have caused reductions in the quality and quantity of habitat including fragmentation that has resulted in poor connectivity. A previously existing dam near the mouth of the Clearwater at Lewiston lead to the extirpation of spring and summer chinook from the drainage. Out-of-subbasin mortality in the form of Columbia and Snake river mainstem dams plus tributary habitat degradation has lead to the extirpation of coho, reduced populations of fall chinook and summer steelhead and diminished the opportunity to re-establish spring chinook. This has resulted in under-seeded habitat, loss of production potential and lost harvest opportunity.

c. Relationships to other projects

Past work has included conducting long-term monitoring on anadromous populations within the Clearwater since the early 1980s (#9107300). The Nez Perce Tribe has

completed stream inventories and habitat surveys in the lower Clearwater area under projects #8200100 and #8801500. USFS implemented instream habitat improvement projects funded by BPA in the Lolo/Crooked Fork/Eldorado Creek (#8400600), Red River (#8350100) and Crooked River (#8350200 and #8400500) areas. The USFS studied opening habitat above Orofino Falls under project #8711200.

The primary native resident fish species targeted for active management in the Clearwater Subbasin include bull trout, westslope cutthroat trout, mountain whitefish, and redside shiner. Target non-native fish include kokanee, rainbow trout and smallmouth bass. These target species directly support fisheries, except the redside shiner, which is an important forage species. Restoration of the redside shiner population in Dworshak Reservoir would benefit trout and smallmouth bass fisheries. Five regional goals were captured in the Resident Fish Multi-year Implementation Plan (RFMYIP) appendix to the June 4, 1997, Resident Fish Annual Implementation Work Plan (CBFWA 1997). The intent of these goals is two-fold: 1) to conserve, protect and enhance production and distribution of these species throughout their historical range; and, 2) to provide sustainable fisheries, including harvest opportunities.

Within the Clearwater Subbasin, fisheries managers intend to achieve these goals by effecting a series of management objectives that address population characteristics, distribution range, and fisheries characteristics. These objectives, also described in the RFMYIP, include: 1) maintaining and restoring population productivity reduced by hydropower development and operations to healthy levels which provide for consumptive and nonconsumptive uses of native population; and 2) ensuring sustained population levels of native fish above the minimum viable population sizes which maintain adaptability and genetic diversity.

These strategies include the following: 1) re-establishing flow regimes that mimic the natural hydrograph, stock assessments, restoring anadromous fish populations to support ecosystem components necessary for healthy native resident populations (nutrients, food resources, habitat); 2) develop localized broodstock of westslope cutthroat trout for mitigation stocking to replace non-native rainbow trout stocking; 3) control or eliminate kokanee entrainment through Dworshak Dam; 4) managing Dworshak Reservoir pool levels for fish and fish food production; 5) fishery regulation and habitat enforcement; and, 6) developing additional pond fisheries compatible with native fish management.

The Nez Perce Tribe and the Idaho Department of Fish and Game completed a Bonneville Power Administration (BPA) funded fishery assessment of Dworshak Reservoir in 1993 (Maiolie, Statler and Elam 1993). The Tri-agency System Operation Review of the Federal Columbia River Power System (FCRPS) applied information obtained from this work to evaluate numerous alternative operations. Ongoing work at the Dworshak Project is directed at strategies to reduce or eliminate kokanee entrainment (Project #8709900) and to develop and refine biological/integrated rule curves (Project #8740700). This work is directly applicable to evaluating the use of Dworshak Reservoir to augment flows for listed Snake River salmon and steelhead. Information obtained is applied to in-season flow management on a real-time basis pursuant to the National Marine Fisheries Service=s Biological Opinion for Operation of the FCRPS. With the exception of winter/spring spill periods, study data have been applied to reduce kokanee entrainment via variable outlet selector gate adjustments. Project # 9501600 is

investigating the extent of genetic introgression of native westslope cutthroat trout populations as a result of stocking non-native rainbow trout. The intent is to have stocking strategies to augment fisheries for mitigation that are compatible with or beneficial to westslope cutthroat trout within the North Fork Clearwater drainage. Two trout ponds have been rehabilitated to restore productive capacity to substitute, in part, for the loss of anadromous fish posed by the permanent blockage at Dworshak Dam (Project #9501300). Two additional pond sites are under investigation.

As a result of controlling or eliminated entrainment of kokanee at Dworshak Dam, expected outcomes include an improved and stabilized kokanee fishery at Dworshak Reservoir, an improved or stabilized forage base for bull trout, and an expanded potential for a large predator fishery. Application of an integrated operational rule curve at Dworshak Reservoir is expected to benefit fish forage, including benthic invertebrates, terrestrial insect deposition, zooplankton, and possibly redside shiners. Restoration of a more normative hydrographic regime through Dworshak Dam would expect to benefit resident fish in Dworshak Reservoir and anadromous fish below Dworshak Dam. Replacing the non-native rainbow trout mitigation program at Dworshak Reservoir with one using progeny from a localized broodstock of westslope cutthroat trout would be expected to protect and enhance current naturally reproducing populations of westslope cutthroat trout within the North Fork Clearwater drainage. Restoration and expansion of trout pond habitat would be expected to provide a harvest of 8,750-10,500 pounds of trout annually in a manner consistent with the management of sensitive native species.

d. Project history (for ongoing projects)

(Replace this text with your response in paragraph form)

e. Proposal objectives

The co-managers have adopted the following outcome-based objectives in order to address these problems: 1) improve adult holding and pre-spawning survival; 2) improve spawning success and survival to emergence; 3) improve juvenile rearing and over-wintering survival; 4) improve summer parr survival; and, 5) supplement where needed with genetically-appropriate salmon and steelhead in the subbasin using stock specific escapement criteria capable of maintaining stock productivity, survival and genetic diversity.

The general strategies to address these objectives include developing and enforcing stock-specific escapement criteria to maintain productivity, survival, and genetic diversity; supplementing natural production, consistent with wild production goals; improving stream habitat; and conducting research, monitoring and evaluation.

Specific actions to carry out these strategies include USFWS management of the Dworshak spring chinook program under the LSRCP. Clearwater Anadromous is operated by IDFG. The Dworshak Complex Manager (USFWS) runs the Kooskia artificial production facility. All three facilities are operated to augment the run for harvest opportunity of spring chinook and Group B steelhead. These facilities are also operated to support natural production for the Idaho Supplementation Studies (projects

#8909800, #9005500, #8909801). Some natural production does occur when returning adults are released above collection weirs. The LSRCP program is operated primarily to mitigate for lost harvest as a result of the four lower Snake River dams. The Nez Perce Tribal hatchery has been planned to produce spring and fall chinook to restore and enhance naturally-spawning populations in the Clearwater drainage. This project (#8335000) includes central incubation/rearing facilities, six satellite facilities for adult collection/holding and juvenile acclimation/release sites. A rearing facility is currently operating at Sweetwater Springs, a tributary to Lapwai Creek.

The Idaho County SCD is doing a restoration project (#9303501) on lower Red River meadow that is part of an experiment to restore the riparian habitat and meadow complex to hydraulic equilibrium. The Clearwater is a NPPC-designated "focus" watershed; that includes habitat enhancement planning, administration, and some project implementation funded under #9608600 and #9706000. Habitat enhancement and restoration activities are funded under projects #9607702 (Lolo Creek), #9607703 (Squaw and Papoose creeks), #9607704 (Lower Eldorado Falls), and #9607705 (McComas Meadows). New habitat restoration work that is proposed for initial funding in FY 1999 includes #9059 (Little Canyon Creek), #9060 (Nichols Canyon), #9120 (Big Canyon Creek) and #9122 (Lapwai Creek). Project #9202409 would fund tribal law enforcement activities to protect the fishery resource from poaching and man-caused habitat degradation.

The Nez Perce Tribe conducts artificial production M & E under project #8335000. Additional research, monitoring and evaluation of supplementation is being conducted under the Idaho Supplementation Studies #8909800, #9005500, #8909801, #8909802, and #9403400. New research and evaluation projects recommended for FY 1999 funding include #9011 (residual steelhead) and #9057 (Pacific lamprey).

f. Methods

(Replace this text with your response in paragraph form)

g. Facilities and equipment

(Replace this text with your response in paragraph form)

h. Budget

(Replace this text with your response in paragraph form)

Section 9. Key personnel

(Replace this text with your response in paragraph form)

Section 10. Information/technology transfer

(Replace this text with your response in paragraph form)

Congratulations!